

CORRELATION OF LIGNITES IN THE MIDWAY AND WILCOX GROUPS OF S. ALABAMA AND E. MISSISSIPPI

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ABSTRACT

The Gulf Coast Paleogene section represents one of the world's most continuous records of cyclic non-marine through marine sedimentation. Microfossil research has demonstrated the completeness of down-dip marine sections; however, the continuity of up-dip, non-marine and marginal marine sections remain relatively uncertain. Lignites occur throughout the Gulf Coast Lower Paleogene but to date have not been adequately characterized with the detail necessary for high resolution correlation. Lignite characteristics, stratigraphic position within Paleogene depositional cycles, and their mode of origin can be utilized in correlating non-marine deposits (highstand system tract) to down-dip marine deposits (transgressive system tract).

Samples were collected from east-central Mississippi and west-central Alabama and analyzed. Principle constituents, comprising over fifty percent, are Inaperature forms in Midway Group samples and Tricolporate forms in Wilcox Group samples. Secondary components, ten to twenty percent, of Triporate and Monolete-Trilete forms occur in both groups. Triporate forms are approximately twenty-five percent more abundant in the Wilcox Group samples while Monolete/Trilete forms remain relatively constant in both groups. Minor components (<5%) of Bivestibulate, Tricolpate, Polycolpate, Polyporate, and Polycolporate forms are present but show distinct percentage only in the Wilcox Group.

These group specific forms combined with the differences in primary and secondary forms and abundances allow samples to be formationally assigned based on palynomorphic signature.